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2                   **INVARIANT PATTERN RECOGNITION**  
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4                   **Abstract**  
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6       An adaptive pattern classifier makes use of training patterns and a known  
7       non-linear invariance transformation to generate a classifier representation based  
8       on an infinite set of virtual training samples on a training trajectory. Given the  
9       non-linear invariance transformation, optimization can be formulated as a  
10      semidefinite program (SDP), which is given by a linear objective function that is  
11      minimized subject to a linear matrix inequality (LMI). In this manner, a small  
12      training set may be virtually supplemented using the non-linear invariance  
13      transformation to learn an effective classifier that satisfactorily recognizes  
14      patterns, even in the presence of known transformations that do not change the  
15      class of the pattern.  
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